



Airport Authority of Washoe County

Reno Cannon International Airport
Reno Stead Airport
Box 12490
Reno, NV 89510
Phone 702/328-6400
FAX 702/328-6510

RECEIVED
ENVIRONMENTAL
PROTECTION

93 MAR 30 AM 11:13

March 29, 1993

Mr. Nevan Kane
Dept. of Conservation and Natural Resources
Division of Environmental Protection
Capital Complex
333 W. Nye Lane
Carson City, NV 89710

**RE: FINAL REMEDIATION OF ABANDONED FIRE TRAINING AREAS 1 AND
6. AFTER ACTION REPORT**

Dear Mr. Kane:

Submitted for your review and approval is a copy of the AFTER ACTION REPORT and support documents for the above referenced project. If you have no recommendations or corrections, consider the report as final.

Per our phone conversation on March 29, 1993, the Airport Authority is requesting that NDEP submit a letter to the FAA stating that the project was completed in accordance with your approval and the FONSI.

As always, it's a pleasure working with you. Thank you for your time and sincere commitment to this project.

Sincerely,

Steve Richard, P.E.
Civil Engineer

SR:kk

Enclosures

cc: Rod Savini, P.E., Senior Engineer



March 26, 1993

22908.5

Airport Authority of Washoe County
Reno Cannon International Airport
Box 12490
Reno, Nevada 89510

Attention: Mr. Rod Savini, P.E.
Senior Engineer

Gentlemen:

**AFTER ACTION REPORT
FINAL REMEDIATION
ABANDONED FIRE TRAINING AREAS
FTA-1 AND FTA-6
RENO INTERNATIONAL AIRPORT
RENO, NEVADA**

INTRODUCTION

This after action report presents the final results of remediation for two abandoned fire training areas (FTAs) (referred to as FTA-1 and FTA-6) located at the Reno Cannon International Airport, Reno, Nevada. (See Site Vicinity Map and Site Location Map, Plates 1 and 2.)

The remediation was performed in accordance with our remedial action work plan presented in our report entitled, "Remedial Action Plan, Abandoned Fire Training Areas Site 1 and 6, Reno Cannon International Airport, Reno, Nevada," dated November 30, 1992.

The remedial activities included:

1. monitoring removal of contaminated soils by contractor;
2. transporting contaminated soils to Nevada Hydrocarbon Inc. (NHI) for incineration;
3. collection of confirmation soil samples in coordination with Nevada Division of Environmental Protection (NDEP) to confirm that complete remediation has occurred; and
4. this after action report describing remedial activities, soil sampling locations, analytical results, and total quantity of contaminated soils delivered to NHI.

FIELD PROCEDURES

Excavations

During excavation of the soils, a photoionization detector (HNU), calibrated to an isobutylene standard (100 parts per million), discoloration and the field engineer's

physical assessment of hydrocarbon odors, were used to screen for contaminated soils. Contaminated soils are considered to be those with total petroleum hydrocarbons (TPH) concentrations greater than 100 parts per million (ppm). Contaminated soils were transported to NHI for incineration.

Sampling and Testing

Upon removal of contaminated soils, exposed clean soils were collected on a grid pattern and then analyzed to confirm that complete remediation had occurred. The soil samples were tested for TPH using EPA Method 8015 (Modified) within 24 hours of sampling.

The approximate locations of confirmation samples are shown on Plate 3. The analytical test results and "chain-of-custody" forms are included at the end of this report the test results and are summarized below.

Table 1. Chemical Testing of Soil

<u>Sample No.</u>	<u>Sample I.D.</u>	<u>Parameter</u>	<u>Concentration</u>	<u>Detection Limit</u>	<u>Location</u>
S1	930316FTA6S1	TPH	ND	10 mg/kg	FTA-6 4.7' Depth
S2	930316FTA6S2	TPH	480*	10 mg/kg	FTA-6 4.5' Depth
S3	930316FTA6S3	TPH	ND	10 mg/kg	FTA-6 4.3' Depth
S4	930316FTA6S4	TPH	38**	10 mg/kg	FTA-6 3.7' Depth
S5	930316FTA6S5	TPH	ND	10 mg/kg	FTA-6 4.9' Depth
S6	930316FTA6S6	TPH	190*	10 mg/kg	FTA-6 4.8' Depth
S7	930316FTA6S7	TPH	ND	10 mg/kg	FTA-6 4.4' Depth
S8	930316FTA6S8	TPH	ND	10 mg/kg	FTA-6 4.6' Depth
S9	930316FTA6S9	TPH	ND	10 mg/kg	FTA-6 5.5' Depth
S10	930317FTA6S10	TPH	ND	10 mg/kg	FTA-6 8.3' Depth
S11	930317FTA6S11	TPH	ND	10 mg/kg	FTA-6 7.6' Depth

* TPH components are in range of diesel/motor oil

** TPH components are in range of gasoline

ND Not Detected

TPH Total Petroleum Hydrocarbons (EPA Method 8015 Modified)
 mg/kg mg/L or parts per million (ppm)

March 26, 1993
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Airport Authority of Washoe County
Mr. Rod Savini
Page 3

Harding Lawson Associates

CONCLUSIONS

Site FTA-1

Prior to excavation of FTA-1, nine (9) exploration test pits were excavated to a depth of 3.5 feet in a grid pattern to delineate the main excavation limits. The test pits encountered abundant trash material in the upper 12 to 18 inches of subsurface soils. The trash and construction debris consisted of pieces of wood, glass, wire, steel reinforcement, small pieces of asphalt concrete, one 55-gallon drum, and one plane tire. No evidence of contaminated soils was observed. A representative of NDEP inspected the test pits on March 17, 1993 and concurred with HLA that remediation of site FTA-1 was not required.

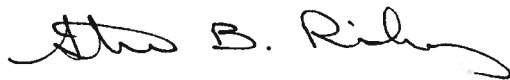
Site FTA-6

The contaminated soils excavated at FTA-6 exhibited abundant staining and hydrocarbon odors typical of diesel, gasoline, and toluene. Maximum HNU readings were 300 units. The total quantity of contaminated soils excavated and delivered to NHI was approximately 1202 tons.

After excavation of contaminated soils, confirmation soil samples of the exposed soils were collected on a grid pattern with a representative of NDEP onsite on March 16, 1993. Laboratory analysis indicated all samples were below the TPH action limit of 100 ppm except for two sample locations S2 and S6 (refer to Table 1 and Plate 2). Further excavation commenced at these locations on March 17, 1993 and confirmation samples S10 and S11 were obtained for TPH analysis. The TPH test results for S10 and S11 were below laboratory detection limits, therefore, NDEP and Harding Lawson Associates concluded FTA-6 was satisfactorily remediated. The excavation was backfilled with engineered fill on March 18-23, 1993.

Yours very truly,

HARDING LAWSON ASSOCIATES



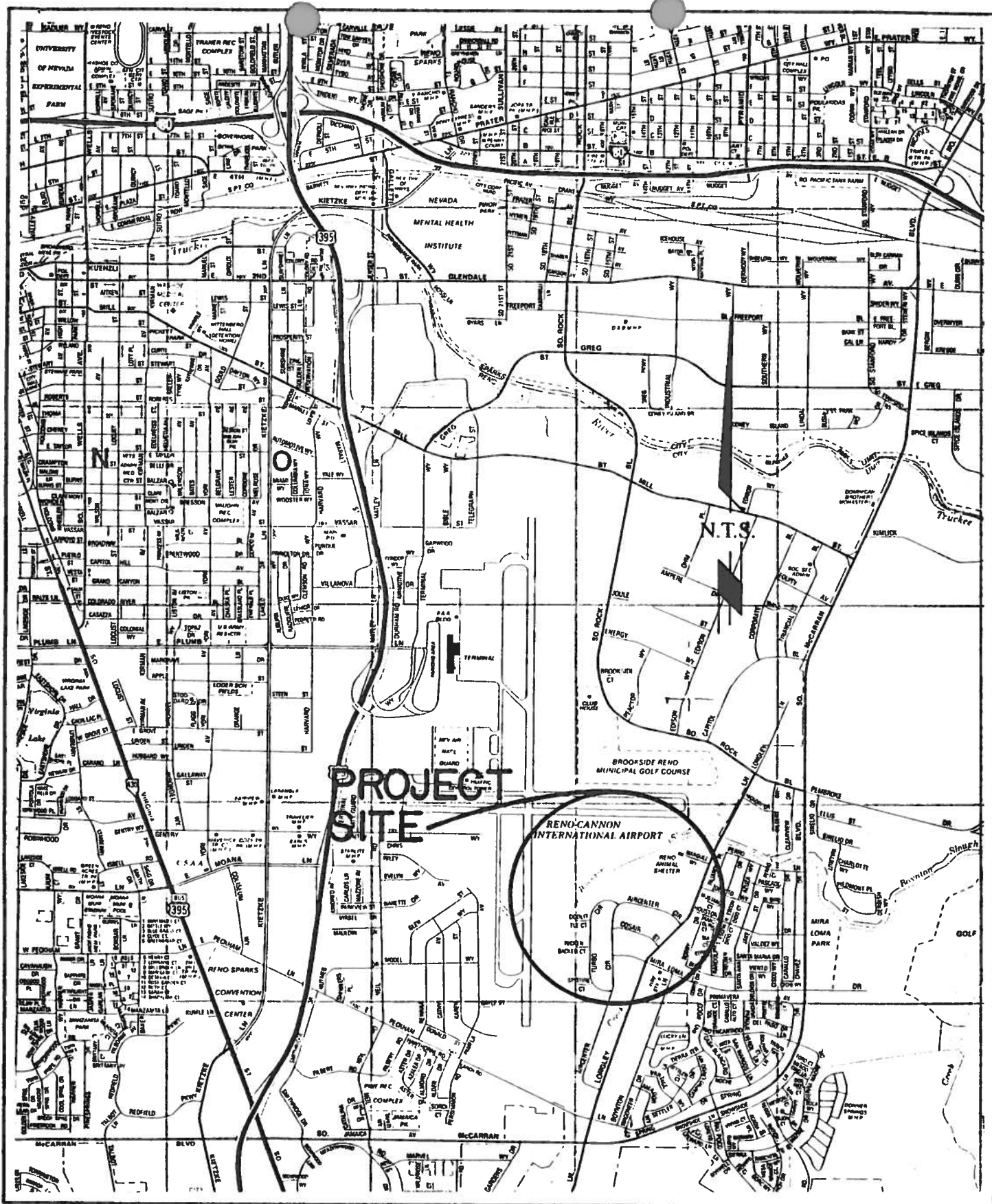
Steven B. Richey, P.E.
Project Engineer



Mary E. Wells
Environmental Manager - 1113 (NV)

SBR/MEW/rs229085.105

Attachments



Harding Lawson Associates
Engineering and
Environmental Services

**SITE VICINITY MAP
RENO CANNON INTERNATIONAL AIRPORT
RENO, NEVADA**

PLATE

1

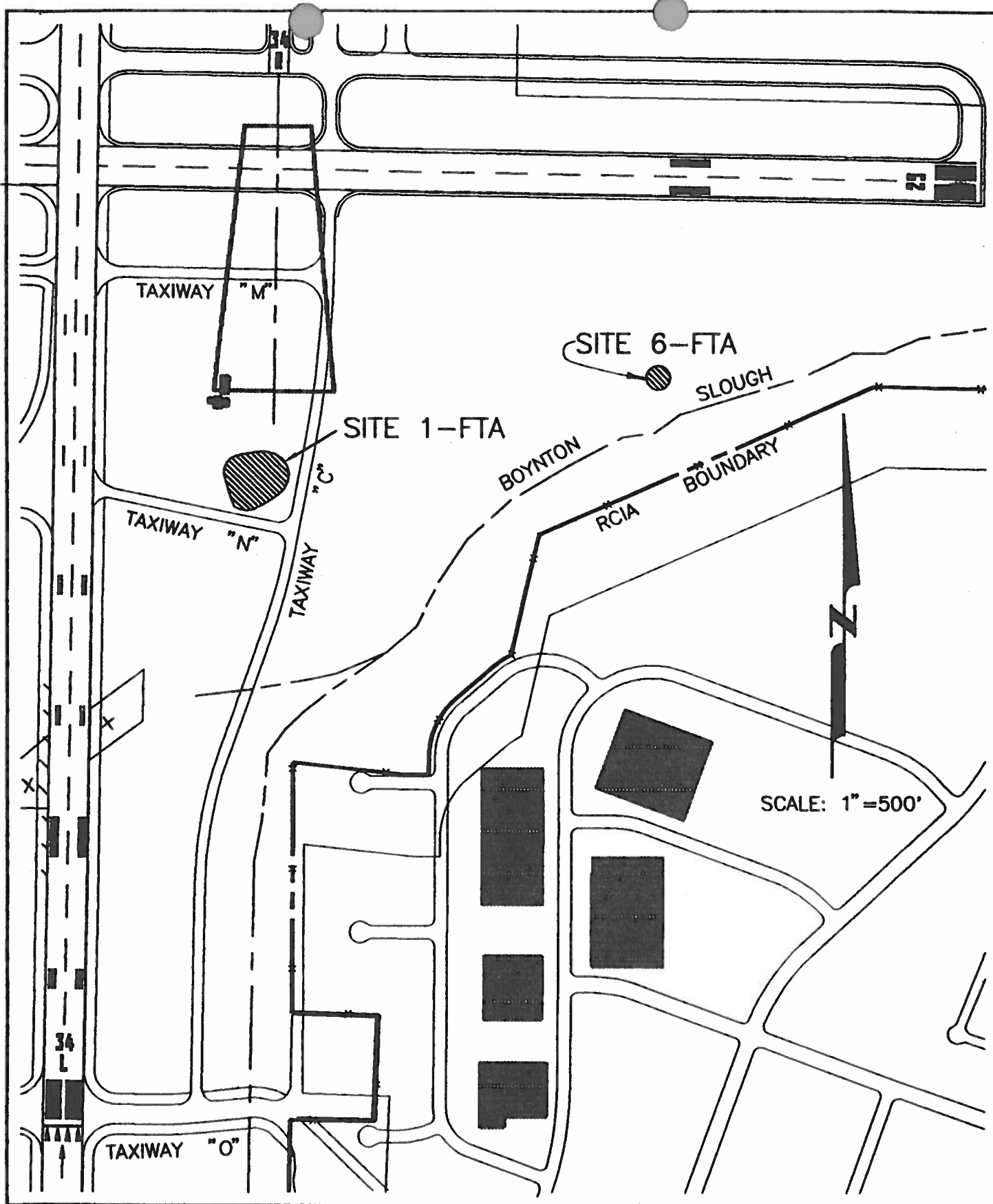
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RLH

JOB NUMBER
22908.5

APPROVED
ABR

DATE
3-25-93

REVISED DATE



Harding Lawson Associates
Engineering and
Environmental Services

**SITE LOCATION MAP
SITES FTA-1 AND FTA-6
RENO CANNON INTERNATIONAL AIRPORT
RENO, NEVADA**

PLATE

2

DRAWN
RLH

JOB NUMBER
22908.5

APPROVED
JBR

DATE
3-25-93

REVISED DATE

EXCAVA
TRAININ



SCALE: 1" = 40'



LEGEND

S8



APPROXIMATE CONFIRMATION SOIL S

CONFIRMATION SOIL SAMPLE LOCATIONS

TA-6

ENO CANNON INTERNATIONAL AIRPORT
ENO, NEVADA

PLATE

3

APPROVED

JSR

DATE

3-25-93

REVISED DATE



**NEVADA ENVIRONMENTAL
LABORATORY**

Reno Division
1030 Matley Lane • Reno, Nevada 89502
(702) 348-2522 • Fax: (702) 348-2546
1-800-368-5221

CLIENT: Harding Lawson Associates
961 Matley Lane, Ste 110
Reno, NV 89502

PROJECT: Airport Remediation
JOB #:

ATTN: Mary Wells

PHONE #: (702) 329-6123

SAMPLED: March 16, 1993

FAX #: (702) 322-9380

ANALYZED: March 16, 1993

EXTRACTED: March 16, 1993

Method: EPA 8015 (Modified)

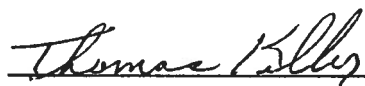
Sample Type: Soil

<u>Sample ID/ Lab ID</u>	<u>Parameter</u>	<u>Concentration</u>	<u>Detection Limit</u>
930316 FTA6 S1 HDL031693-01	TPH	ND	10 mg/kg
930316 FTA6 S2 HDL031693-02	TPH	480*	10 mg/kg
930316 FTA6 S3 HDL031693-03	TPH	ND	10 mg/kg
930316 FTA6 S4 HDL031693-04	TPH	38**	10 mg/kg
930316 FTA6 S5 HDL031693-05	TPH	ND	10 mg/kg

* - TPH components are in the range of Diesel / Motor Oil

** - TPH components are in the range of Gasoline

ND - Not Detected



Thomas Kelley
Semivolatiles Team Lead

Mar 17 1993

Date



**NEVADA ENVIRONMENTAL
LABORATORY**

Reno Division
1030 Matley Lane • Reno, Nevada 89502
(702) 348-2522 • Fax: (702) 348-2546
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EXTRACTED: March 16, 1993

Method: EPA 8015 (Modified)

Sample Type: Soil

<u>Sample ID/ Lab ID</u>	<u>Parameter</u>	<u>Concentration</u>	<u>Detection Limit</u>
930316 FTA6 S6 HDL031693-06	TPH	190*	10 mg/kg
930316 FTA6 S7 HDL031693-07	TPH	ND	10 mg/kg
930316 FTA6 S8 HDL031693-08	TPH	ND	10 mg/kg
930316 FTA6 S9 HDL031693-09	TPH	ND	10 mg/kg
Method Blank	TPH	ND	10 mg/kg

* - TPH components are in the range of Diesel / Motor Oil

ND - Not Detected

Thomas Kelley

Thomas Kelley
Semivolatiles Team Lead

Mar 17, 1993

Date

**NEVADA ENVIRONMENTAL
LABORATORY**

Reno Division
1030 Matley Lane • Reno, Nevada 89502
(702) 348-2522 • Fax: (702) 348-2546
1-800-368-5221

CLIENT: Harding Lawson Associates
961 Matley Lane, Ste 110
Reno, NV 89502

PROJECT: Fire Training
Area Remediation
JOB #: 22908.4

ATTN: Mary Wells

PHONE #: (702) 329-6123

SAMPLED: March 17, 1993

FAX #: (702) 322-9380

ANALYZED: March 17, 18, 1993

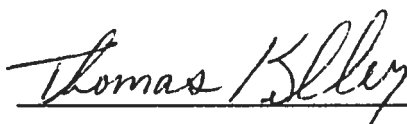
EXTRACTED: March 17, 1993

Method: EPA 8015 (Modified)

Sample Type: Soil

<u>Sample ID/ Lab ID</u>	<u>Parameter</u>	<u>Concentration</u>	<u>Detection Limit</u>
930317 FTA6 S10 HDL031793-01	TPH	ND	10 mg/kg
930317 FTA6 S11 HDL031793-02	TPH	ND	10 mg/kg
Method Blank	TPH	ND	10 mg/kg

ND - Not Detected



Thomas Kelley
Semivolatiles Team Lead

Mar 18, 1993
Date

NEVADA ENVIRONMENTAL LABORATORY

CHAIN OF CUSTODY

Reno Division • 1030 Matley Lane • Reno, NV 89502
(702) 348-2522 • FAX: (702) 348-2546 • 1-800-368-5221

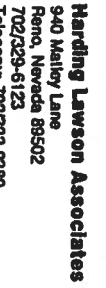
Company: HARDING LAWSON
Address: _____
Phone No.: _____ Fax No.: _____

Attn: MARY WELLS
Requested Turnaround: _____ 5 Day (Normal) _____ 48 Hr. 24 Hr. Other _____
Estimated Due Date: 3.17.93

Date/Time	Sample Type	Sample ID	N.E.L. Identification	# of Containers and Type	Analysis	Condition of Sample (Lab Use Only)	Preservative Code (Lab Use Only)	Remarks
3/16/93 11:35	S	930316 FTR 6 S1	HDLO31693-01	1 G X				
11:40	S			02 1 G X				
11:43	S			03 1 G X				
11:45	S			04 1 G X				
11:46	S			05 1 G X				
11:47	S			06 1 G X				
11:48	S			07 1 G X				
11:50	S			08 1 G X				
11:52	S	930316 FTR 6 S9		09 1 G X				

S (Soil), W (Water), O (Other)
This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

Relinquished (Signature)	Date / Time	Received (Signature)	Billing Information:	Mail Results To:
<u>MARY WELLS</u>	3/16/93 12:40 PM	<u>Debra Richey</u>		



13b: NEVADA ENVIRONMENTAL

Samplers: STEVE RICHIEY

Project Manager: JOHN WELSH

1161122A

ATTENTION: MARK WELLS

recoiler.

(Signature Required)

[illegible][illegible]

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
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DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT			

Reno Division • 1030 Matley Lane • Reno, NV 89502
(702) 348-2522 • FAX: (702) 348-2546 • 1-800-368-5221

Company:

Address: HARDING LAWSON ASSOCIATES

Phone No.:

Fax No.:

Attn.:

MARY WELLSRequested Turnaround: 5 Day (Normal) 48 Hr. 24 Hr. X OtherEstimated Due Date: 3.18.93 7:30-8:00 am

Date/Time Sample Type

Sample ID

N.E.L. Identification

of Containers
and Type

Analysis

Condition of Sample (Lab Use Only)
Preservative Code (Lab Use Only)

Remarks

Project Name:

FILE TRAINING AREA REMEDIATION

Project No.:

22908.4

P.O. No.:

Sampled By:

Steve Richey

S (), W (Water), O (Other)

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

Relinquished (Signature)

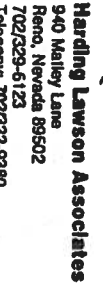
Date / Time

Received (Signature)

Billing Information:

Mail Results To:

MARY WELLS 3.17.93 2:50 pm Denise Richey



1st: Nov. Envir. Lab

Samplers: Steve Richman

Job Number: 22908.4

Name/Location: Fire Train Area Remptation

Project Manager: Mr. Weis

Recorder:

(Signature Required)

[illegible]

LAB NUMBER		DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
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